

In the Claims

1. – 40. (cancelled)

41. (new) A video imaging system for viewing an area to be viewed, the system comprising:

an endoscopic device, for transmitting illuminating light to and transmitting reflected light from, an area to be viewed;

a camera, coupled to the endoscopic device, said camera generating image data based upon the received reflected light, said camera including a multiplexer;

a camera control unit;

a light source, coupled to said camera control unit, for generating illuminating light;

a cable, coupling said camera to said camera control unit, said cable including:

a pair of wires, for transmitting the image data and for transmitting camera information from said camera to said camera control unit; and

a light guide, coupled to said light source, for transmitting illuminating light from said light source to said camera;

said image data and camera information multiplexed on said pair of wires.

42. (new) The video imaging system according to Claim 41 wherein at least the image data and the camera information are transmitted utilizing a digital serial protocol.

43. (new) The video imaging system according to Claim 42 wherein the digital serial protocol is Low-Voltage Differential Signaling.

44. (new) The video imaging system according to Claim 41 wherein the control unit generates a command signal for operating the camera based on the received camera information.

45. (new) The video imaging system according to Claim 44 wherein the control signal, the command signal and the image data are multiplexed on the pair of wires.

46. (new) The video imaging system according to Claim 44 wherein said cable further comprises a second pair of wires for transmitting the command signal from said camera control unit to said camera.

47. (new) The video imaging system according to Claim 41 further comprising a jacket, enclosing said pair of wires and said light guide.

48. (new) The video imaging system according to Claim 41 wherein the control unit further comprises a light deflector mounted along a path between said light source and said light guide so as to sever the path of the light output when the cable is disconnected from the control unit.

49. (new) The video imaging system according to Claim 41 wherein said camera control unit further comprises a de-multiplexer for de-multiplexing the image data and camera information.

50. (new) The video imaging system according to Claim 41 further comprising a coupling attached to a distal end of said cable, for coupling said cable to said camera, said coupling including therein a connection for said pair of wires and said light guide.

51. (new) The video imaging system according to Claim 50 wherein said coupling engages with a longitudinal end of said camera and illuminating light is transmitted longitudinally through said camera to illuminate an area to be viewed.

52. (new) The video imaging system according to Claim 51 further comprising an endoscope attached to said camera for receiving the illuminating light and transmitting reflected light from an area to be viewed to said camera.

53. (new) A method for communicating between a camera and a camera control unit comprising the steps of:

coupling a camera control unit to a camera via a cable, the cable including a pair of wires and a light guide;

generating illuminating light and transmitting the illuminating light to the camera via the light guide;

transmitting the illuminating light from the camera to an area to be viewed via an endoscopic device coupled to the camera and receiving reflected light from the area to be viewed;

generating image data based on the received reflected light;

multiplexing the image data and camera information to form a multiplexed signal; and

transmitting the multiplexed signal via the pair of wires to the camera control unit.

54. (new) The method according to Claim 53 further comprising the step of de-multiplexing the multiplexed signal.

55. (new) The method according to Claim 53 wherein the camera control unit generates a command signal based on the received camera information.

56. (new) The method according to Claim 55 further comprising the step of multiplexing the command signal for transmission from the camera control unit to the camera via the pair of wires.

57. (new) The method according to Claim 53 wherein the cable is coupled to a longitudinal end of the camera.

58. (new) The method according to Claim 57 wherein the illuminating light is transmitted longitudinally through the camera to the area to be viewed.